Remarks

Claims 1-22 are pending but stand rejected. Claims 1-5, 7, 9-15, 18 and 19 have been amended. Those amendments find support in the Specification as filed. *See, e.g.,* Specification, paragraphs [0012]-[0014] and Figs. 7-10. In view of the amendments and the following remarks, the Applicant respectfully requests the Examiner's reconsideration.

Claim Rejections – 35 USC § 112

The Examiner rejected Claim 14 noting a lack of antecedent basis for the phrase "the gold." Claim 14 has been amended to address the Examiner's concern.

Claim Rejections – 35 USC § 102

The Examiner rejected Claims 1-3, 5, 7-8, and 18-19 as being anticipated by USPN 5,589,082 issued to Lin.

Claim 1 is directed to a method of forming a microelectromechanical system (MEMS) device and, as amended, recites the following acts:

1. forming mechanical structures supported by a substrate having a bond ring area laterally spaced from the mechanical structures and having a first sacrificial layer encapsulating the mechanical structures;
2. forming a bond ring material on top of the first sacrificial layer and the bond ring area;
3. forming second sacrificial layer on top of at least a portion of the bond ring material and the bond ring area;
4. removing some of the bond ring material; and
5. removing at least a portion of the second sacrificial layer to expose a bond ring.

The following summary of Lin is taken from Lin, col. 11, lines 13-37 and Figs. 7Q and 7R. To help illustrate, Lin. Figs. 7Q and 7R are reproduced below.

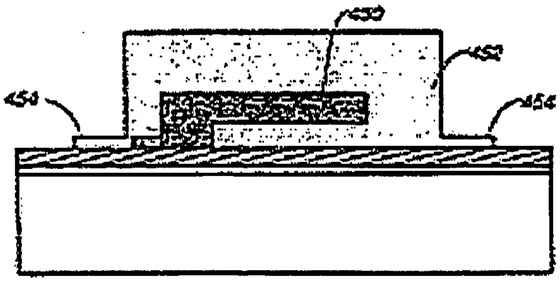

FIG._7Q

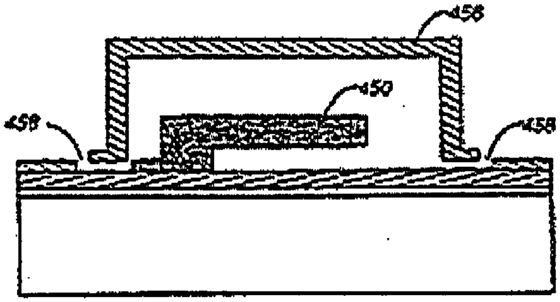

FIG._7R

Lin describes a method in which a resonator (450) is formed on a substrate. A first sacrificial layer (452) is formed over the resonator. A second sacrificial layer (454) is formed adjacent to the first (452). A LPCVD low stress nitride layer (456) is formed over the sacrificial layers (452) and (454). Etch holes (458) are formed in the nitride layer (456). The sacrificial layers (452) and (454) are etched away. The etch holes (458) leave one portion of the nitride layer (456) covering the resonator (450) and other separate portions of the nitride layer (456) laterally spaced from the resonator (450) along the substrate. The Examiner equates the nitride layer (456) with the bond ring material of Claim 1 and the separate portions of the nitride layer (456) with the bond ring of Claim 1.

As amended Claim 1 recites forming second sacrificial layer on top of at least a portion of the bond ring material and the bond ring area, removing some of the bond ring material, and removing at least a portion of the second sacrificial layer to expose a bond ring. Lin does not teach or suggest that a second sacrificial layer be formed on the nitride layer (456). Consequently, Lin does not teach the combination of acts recited by Claim 1. Claim 1 is therefore patentable over Lin as are Claims 2-8 due at least in part to their dependency from Claim 1.

Claim 18 recites a microelectromechanical system (MEMS) device formed by the method of Claim 1. For at least the same reasons claim 1 is patentable, so are Claim 18 and Claims 19-22 which depend from Claim 18.

Claim Rejections – 35 USC § 102

The Examiner rejected Claims 1, 5, 7-10, and 15-22 as being anticipated by US Pub 2005/0017313 to Wan.

Claim 1, as noted above, Wan describes forming second sacrificial layer on top of at least a portion of the bond ring material and the bond ring area, removing some of the bond ring material, and removing at least a portion of the second sacrificial layer to expose a bond ring.

Wan does not teach or suggest that a second sacrificial layer be formed on a layer of bond ring material. Referring to Wan, Figs. 5a-5g and 6c-6i, the Examiner equates Wan's sidewalls (6) with the bonding ring of Claim 1. It is clear from a review of those figures and the Wan's specification that a sacrificial layer is never formed on top of the sidewalls (6) and then removed to reveal the sidewalls (6). For at least these reasons, Claim 1 is patentable over Wan as are Claims 2-8 due at least in part to their dependency from Claim 1.

Claim 9 is directed to a method of forming a microelectromechanical system (MEMS) device and, as amended, recites the following acts:

1. forming mechanical structures supported by a substrate and having a first sacrificial layer encapsulating the mechanical structures;

2. forming a bond ring area laterally spaced from the mechanical structures and supported by the substrate, the bond ring area having a portion without the first sacrificial layer thereon;
3. forming a conductive layer on top of the first sacrificial layer and the bond ring area;
4. forming second sacrificial layer on top of at least a portion of the conductive layer and the bond ring area;
5. removing some of the conductive layer such that the conductive layer remains in the portion of the bond ring area; and
6. removing the first and second sacrificial layers to release the mechanical structures and to expose the conductive layer remaining in the bond ring area.

Similar to Claim 1, Claim 9 recites the forming of a second sacrificial layer on top of at least a portion of a conductive layer and the bond ring area, removing some of the conductive layer, and then removing at least a portion of the second sacrificial layer to expose the remaining conductive. As with Claim 1, Wan fails to teach the formation of a second sacrificial layer on top of the conductive layer. As a consequence, Wan cannot then teach the removal of a first and the second sacrificial layers to expose the conductive layer remaining in the bond ring area.

For at least these reasons Claim 9 is patentable over Wan as are Claims 0-17 due at least in part to their dependency from Claim 9.

Claim 18 recites a microelectromechanical system (MEMS) device formed by the method of Claim 1. For at least the same reasons claim 1 is patentable, so are Claim 18 and Claims 19-22 which depend from Claim 18.

Claim Rejections – 35 USC § 103

The Examiner rejected **Claim 4** as being unpatentable over Lin in view of USPN 6,873,450 issued to Patel. Claim 4 depends from Claim 1 and includes all the limitations of that base Claim. For at least the same reasons that Claim 1 is patentable, so is Claim 4.

The Examiner rejected **Claims 6 and 14** as being unpatentable over Wan. Claim 6 depends from Claim 1 and includes all the limitations of that base claim. Claim 14 depends from Claim 9 and includes all the limitations of that base claim. For at least the same reasons that Claims 1 and 9 are patentable, so are Claims 6 and 14.

The Examiner rejected **Claims 2-4 and 11-13** as being unpatentable over Wan in view of Patel. Claims 2-4 depend from Claim 1 and include all the limitations of that base claim. Claims 11-13 depends from Claim 9 and include all the limitations of that base claim. For at least the same reasons that Claims 1 and 9 are patentable, so are Claims 2-4 and 11-13.

Conclusion

The foregoing is believed to be a complete response to the outstanding Office Action.

Respectfully submitted,
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September 1, 2005